

ABSTRACT OF THE DISCLOSURE

A fuel cell assembly includes a membrane electrode assembly having a substantially solid polymer electrolyte membrane positioned between opposed catalyst layers. The polymer electrolyte membrane has a dimension that is relatively larger than a comparable dimension of at least one of the catalyst layers, such that the polymer electrolyte membrane has an uncovered portion. The fuel cell assembly also includes a gasket attached to the uncovered portion of the polymer electrolyte membrane. The gasket extends beyond a periphery of the polymer electrolyte membrane and the gasket is formed of a polymer material. In addition, the gasket is configured to substantially seal the edges of the polymer electrolyte membrane to substantially prevent leakage of fuel or oxidant between an anode side and a cathode side of the membrane electrode assembly.